REMARKS

Claims 1-21 were pending at the time of the Action. Claims 1-3, 5-8, 11-16 and 18-21 were rejected in the Action under 35 U.S.C. Section 103 as being unpatentable over U.S. Patent No. 6,369,762 to Yanagisawa et al. ("Yanagisawa") in view of U.S. Patent No. 6,104,356 to Hikuma et al. ("Hikuma"). Claim 4 was rejected in the Action under Section 103 as being unpatentable over Yanagisawa and Hikuma in further view of U.S. Published Application 2003/0076272 to Kurjenheimo et al. ("Kurjenheimo"). Claim 17 was rejected in the Action under Section 103 as being unpatentable over Yanagisawa and Hikuma in further view of U.S. Published Application 2004/0056804 to Kadambi et al. ("Kadambi"). Claims 9-10 were rejected in the Action under Section 103 as being unpatentable over Yanagisawa and Hikuma in further view of U.S. Patent No. 7,212,164 to Miyano et al. ("Miyano").

Claims 22 and 23 are new. Support for Claims 22 and 23 can be found, for example, in the specification at page 11, lines 3-13 and in FIG. 5.

Reconsideration is respectfully requested for the reasons set forth below.

I. Independent Claims 1 and 18 are patentable over Yanagisawa and Hikuma

Claim 1 recites a diversity radio antenna, including:

> a ground substrate, first and second elongated antenna elements, each extending between respective first and second opposing ends thereof in a plane parallel to and spaced from the ground substrate, and an excitation electrode interposed between the respective first ends, each antenna element having one grounding point connectable to the ground substrate, wherein the first antenna element has a first ground connector switch means selectively connecting or disconnecting the first antenna grounding point to the ground substrate, and the second antenna element has a second ground connector switch means selectively connecting or disconnecting the second antenna grounding point to the ground substrate, wherein the ground connector switch means are configured to selectively connect one or both of the antenna elements to the ground substrate for controlling radiation beam pattern and polarisation diversity of the antenna.

Claim 18 recites a radio communication terminal including a diversity radio antenna including substantially the recitations of Claim 1.

For the reasons discussed below, neither Hikuma nor Yanagisawa teach or suggest two antenna elements such that each antenna element includes a ground connector switch means for selectively connecting one or both of the antenna elements to a ground substrate for controlling radiation beam pattern and polarization diversity of the antenna as recited in Claims 1 and 18. In fact, Hikuma teaches away from a combination with Yanagisawa.

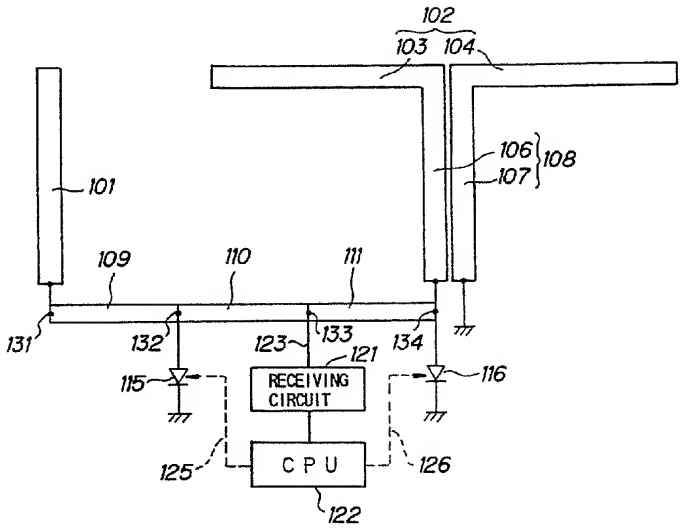
The Action concedes that Yanagisawa fails to teach that the first antenna element has a first ground connector switch means selectively connecting or disconnecting the first antenna grounding point to the ground substrate and that the second antenna element has a second ground connector switch means selectively connecting or disconnecting the second antenna grounding point to the ground substrate, wherein the ground connector switch means are configured to selectively connect one or both of the antenna elements to the ground substrate for controlling radiation beam pattern and polarization diversity of the antenna. The Action cites Hikuma as teaching this feature. *See* the Action at page 3.

Applicant respectfully disagrees. Hikuma is concerned with alleviating the effects of fading. *See*, for example, Hikuma at col. 1, lines 25-31. Hikuma discloses a diversity antenna circuit in which "a plane of vertical polarization of electric wave is mainly received by [a] first antenna and a plane of horizontal polarization of electric wave is mainly received by [a] second antenna." Hikuma at col. 2, lines 14-18. In this regard, Hikuma states at col. 4, lines 18-27:

> when it is determined that electric field strength of a signal received by the first antenna 101 is higher than that by the second antenna 102, the first switching means 115 is turned OFF and the second switching means 116 is turned ON by a switching control means 122. When it is determined that the electric field strength of a signal received by the second antenna 102 is higher than that by the first antenna 101, however, the first switching means 115 is turned ON and the second switching means 116 is turned OFF.

See also FIG. 1 of Hikuma (reproduced below).

FIG. 1



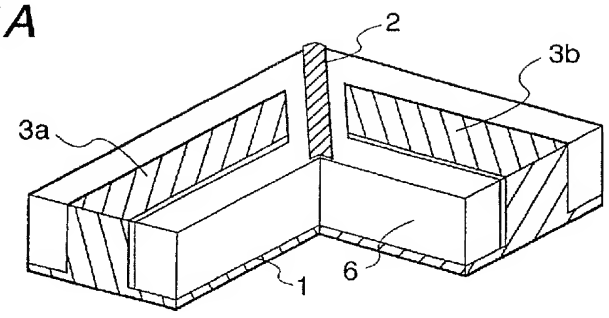
In other words, Hikuma discloses a diversity antenna with switching means 115, 116 associated with each of the first and second antennas 101, 102. The control means 122 turns on one of the antennas 101, 102 and turns the other antenna OFF based on the electric field strength of the signal received (*see*, Hikuma at col.4, lines 18-27). Therefore, Hikuma only discloses circumstances in which the switching means 115, 116 associated with one of the antennas 101, 102 is turned ON while the switching means 115, 116 associated with the other of the antennas 101, 102 is turned OFF. Accordingly, Hikuma does not teach or render obvious that "the ground connector switch means are configured to selectively connect one or **both** of the antenna elements to the ground substrate for controlling radiation beam pattern and polarization diversity of the antenna" as recited in Claims 1 and 18.

In addition, Applicant submits that Hikuma teaches away from Yanagisawa. Yanagisawa states at col. 7, lines 10-13:

> Two linearly-polarized waves which are equal in power and 90-degrees out of phase with each other are radiated simultaneously, thereby radiating a circularly-polarized wave.

See also FIG. 1A of Yanagisawa (reproduced below).

FIG. 1A



Accordingly, the electrodes 3a and 3b of Yanagisawa radiate linearly-polarized waves simultaneously, thereby radiating a circularly-polarized wave. In contrast and as discussed above, Hikuma discloses that only one antenna is connected to ground at a given time, depending on relative signal strength, and a linearly-polarized wave is received. *See*, for example, Hikuma at col. 3, lines 3-16 and col. 4, lines 17-27. Therefore, Applicants respectfully submit that there is in fact no incentive to combine Hikuma with Yanagisawa because their teachings are incompatible, and moreover, Hikuma teaches away from the claimed subject matter.

It is noted that Kurjenheimo, Kadambi and Miyano (pages 7-8 of the Action) do not cure the deficiencies of Yanagisawa and Hikuma.

For at least these reasons, neither Hikuma nor Yanagisawa teach or suggest all of the recitations of Claims 1 and 18, and cannot render the recitations of Claims 1 and 18 obvious. Claims 2-17 and Claims 19-21 depend from Claim 1 and are patentable for at least the reasons discussed above. In addition, at least certain dependent claims are separately patentable for at least the reasons discussed below.

II. At Least Claims 8 and 21 are Separately Patentable

Claim 8 recites that the ground connector switch means are configured to selectively connect the first and second antenna elements to ground for adapting the antenna to a circularly-polarized radio wave, or disconnect one of the first and second antenna elements from ground for adapting the antenna to a linearly-polarized radio wave. Claim 21 recites

that the ground connector switch means are configured to select vertical, horizontal or circular polarization of the antenna.

The diversity antenna of Hikuma receives either horizontal- or vertical-polarized (*i.e.*, linearly-polarized) waves, depending on which antenna is connected to ground. *See*, for example, Hikuma at col. 3, lines 3-16. Yanagisawa proposes two electrodes with one end of each electrode connected to ground. The electrodes radiate linearly-polarized waves simultaneously, thereby radiating a circularly-polarized wave. *See* Yanagisawa at col. 4, lines 56-66 and col. 7, lines 10-13. Therefore, neither Hikuma nor Yanagisawa teaches or suggests a ground connector switch means configured to selectively connect/disconnect elements to ground to adapt the antenna to a circularly-polarized and/or linearly-polarized radio wave as recited in Claim 8 or to select vertical, horizontal or circular polarization of the antenna as recited in Claim 21.

For at least these reasons, at least Claims 8 and 21 are separately patentable and Applicant respectfully requests an indication of same.

III. New Claims 22 and 23

New Claims 22 and 23 depend from Claims 1 and 18, respectively and are patentable for at least the reasons discussed above with respect to the claims from which they depend. In addition, Claims 22 and 23 are separately patentable for at least the reasons that follow.

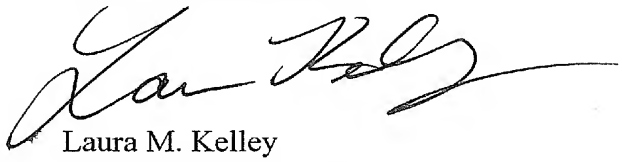
Claims 22 and 23 recite that the ground connector switch means are configured to connect both antenna elements to the ground substrate at the same time. Applicant submits that this feature is not disclosed or rendered obvious by the art cited in the Action.

For at least these reasons, Claims 22 and 23 are separately patentable and Applicant respectfully requests an indication of same.

CONCLUSION

Accordingly, Applicant submits that the present application is in condition for allowance and the same is earnestly solicited. Should the Examiner have any matters outstanding of resolution, he is encouraged to telephone the undersigned at 919-854-1400 for expeditious handling.

Respectfully submitted,



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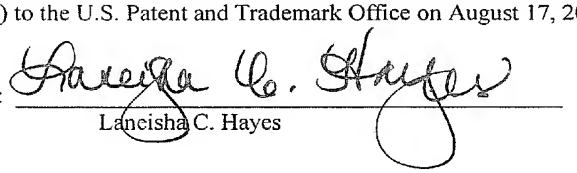
Signature: 

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